

What is claimed is:

1. A closed level control system for a vehicle having a vehicle body, vehicle axles and pressurized medium chambers with which the vehicle body is suspended relative to corresponding ones of said vehicle axles, the closed level control system comprising:

5           pressurized medium supply vessel means having first and second pressurized medium spaces for holding a medium under pressure as a pressurized medium;

          said first and second pressurized medium spaces having no direct connection therebetween;

10           a compressor for transferring said pressurized medium between said pressurized medium supply vessel and said pressure medium chambers;

          said compressor having an input and an output;

          first and second controllable directional valves and each  
15       one of said valves having at least two switching states; and,

          said first controllable directional valve being switchable to connect either said first pressure medium space or said second pressure medium space to said compressor input or to said compressor output so that pressurized medium from said  
20       pressurized medium chambers can be transferred into said first pressurized medium space or into said second pressurized medium space or pressurized medium from said first pressurized medium space or from said second pressurized medium space can be transferred to said pressurized medium chambers.

2. The closed level control system of claim 1, wherein said pressurized medium is pressurized air and said system further comprising:

a first pressurized air line connecting said first  
5 controllable directional valve to said input of said compressor;  
a second pressurized air line connecting said output of said  
compressor to said second controllable directional valve;  
a third pressurized air line connecting said input of said  
compressor to said second controllable directional valve;  
10 a fourth pressurized air line connecting said output of said  
compressor to said first controllable directional valve;  
said pressurized medium chambers being connected to said  
second controllable directional valve;  
said first pressurized air line being switched through by  
15 said first controllable directional valve in a first switching  
state and said second pressurized air line being switched through  
by said second controllable directional valve in a first  
switching state and said fourth pressurized air line being  
blocked by said first controllable directional valve in said  
20 first switching state and said third pressurized air line being  
blocked by said second controllable directional valve in said  
first switching state when pressurized air is transferred from  
one of said first and second pressurized medium spaces into one  
of said pressurized medium chambers;  
25 said third pressurized medium air line being switched  
through by said second controllable directional valve in a second  
switch state and said first pressurized air line being switched  
through by said first controllable directional valve in a second  
switching state and said first pressurized air line being blocked  
30 by said first controllable directional valve and said second  
pressurized air line being blocked by said second controllable  
directional valve in a second switching state wherein pressurized  
air is transferred from one of said pressurized medium chambers

into one of said first and second pressurized medium spaces;

35           a third controllable directional valve interposed between  
said first controllable directional valve and said pressurized  
medium spaces and said third controllable directional valve  
likewise having at least two switching states;

40           said third controllable directional valve being switched  
into a first switching state to provide a connection from said  
first controllable directional valve to said first pressurized  
medium space and to block a connection to said second pressurized  
medium space; and,

45           said third controllable directional valve being switched  
into a second switching state to provide a connection from said  
first controllable directional valve to said second pressurized  
medium space and to block a connection to said first pressurized  
medium space.

3. The closed level control system of claim 2, wherein said  
first pressurized air line and said third pressurized air line  
conjointly define a common connecting point; and, wherein said  
closed level control system further comprises:

5           a first check valve mounted in said first pressurized air  
line between said common connecting point and said first  
controllable directional valve and said first check valve being  
disposed so as to be open toward said input of said compressor;  
and,

10           a second check valve mounted in said third pressurized air  
line between said common connecting point and said second  
controllable directional valve and said second check valve being  
open toward said input of said compressor.

4. The closed level control system of claim 1, wherein said first and second pressurized medium spaces are separate first and second pressurized medium supply vessels.

5. The closed level control system of claim 1, wherein said first and second pressurized medium spaces have different pressure levels.

6. The closed level control system of claim 1, wherein the pressure in at least one of said first and second pressurized medium spaces is greater than the maximum actual compression end pressure of said compressor.

7. The closed level control system of claim 1, further comprising an additional air line connected into said pressurized air line of said system to facilitate control of an external apparatus utilizing the pressure in at least one of said first and second pressurized medium spaces; and, the residual pressure in the other one of said pressurized medium spaces being available to execute a level change of said level control system directly after the external control operations.

8. The closed level control system of claim 7, wherein said external apparatus is a tire inflating device.

9. The closed level control system of claim 2, further comprising:

an air dryer mounted in said fourth pressurized air line;

an intake valve switchable between a base position wherein no throughflow is permitted and a switched position wherein

throughflow is permitted;

an intake line ending at said intake valve and connecting said input of said compressor to the atmosphere when said intake valve is in said switched position;

10 a discharge valve switchable between a base position wherein no throughflow is permitted and a switched position wherein throughflow is permitted;

a discharge line branching off from said fourth pressurized air line at a branch point between said output of said compressor and said air dryer and ending at said discharge valve; and,

15 said pressurized medium supply vessel means being connectable to the atmosphere via said air dryer and said discharge line when said discharge valve is in said switched position.

10. A method for controlling the level of a vehicle with a closed level control system, the vehicle having a vehicle body, vehicle axles and pressurized medium chambers with which the vehicle body is suspended relative to corresponding ones of said vehicle axles, the closed level control system including:

5 pressurized medium supply vessel means having first and second pressurized medium spaces for holding a medium under pressure as a pressurized medium; said first and second pressurized medium spaces having no direct connection therebetween; a compressor for

10 transferring said pressurized medium between said pressurized medium supply vessel and said pressure medium chambers; said compressor having an input and an output; first and second controllable directional valves and each one of said valves having at least two switching states; and, said first

15 controllable directional valve being switchable to connect either

said first pressure medium space or said second pressure medium space to said compressor input or to said compressor output so that pressurized medium from said pressurized medium chambers can be transferred into said first pressurized medium space or into  
20 said second pressurized medium space or pressurized medium from said first pressurized medium space or from said second pressurized medium space can be transferred to said pressurized medium chambers; the method comprising the step of:

utilizing said compressor to fill said first and second  
25 pressurized medium spaces by transferring pressurized medium from said pressurized medium chambers into said pressurized medium spaces with said pressurized medium spaces having a pressure greater than the actual compression end pressure of said compressor.

11. The method of claim 10, comprising the further steps of:

providing an air dryer in said fourth pressurized air line;  
transferring pressurized medium from said air dryer  
sequentially into the first pressurized medium space or into the  
5 second pressurized medium space with the pressurized medium space being at a pressure higher than the actual compression end pressure of said compressor; and,

utilizing said compressor to draw pressurized medium from the second or the first pressurized medium space, which is not to  
10 be filled, and to transfer the pressurized medium into said air dryer when the first or the second pressurized medium space is not connected to said air dryer or no pressurized medium from said air dryer is transferred into the first or the second pressurized medium space.